

Animation Visual Effects Demo Reel

An Honors Thesis (ART 490)

by

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1/3/12

Ball State University

Muncie, Indiana

December 2011

Expected Date of Graduation

December 2011

Abstract

My Senior Thesis Project is a visual effects demo reel that showcases my abilities to create realistic visual effects. The demo reel is two and half minutes of the best work I completed this semester compiled in one video. I completed seven visual effect projects over the course of this semester. I used various computer programs to complete these projects including Adobe After Effects, Adobe Photoshop, Autodesk Maya, Autodesk SoftImage, PFTrackerX, Cameratracker, and Trapcode Particular. The intent of my demo reel is to show professional level visual effects to prospective employers and to show an audience. The seven projects I have completed at the end of the semester are a few 3D set extensions, screen replacement, artificial heads up display, arm tracking and fire simulation, and a shirt replacement videos.

Acknowledgements

I would like to thank Dr. Emert and Professor Andy Beane for advising me over the course of this semester.

Author's Statement

In contemporary art, the medium of digital art is becoming more relevant. As a digital artist I am trying to validate this relatively new form of art. Animation has often been dismissed as an art form because of its use as a form of entertainment. As the medium has transferred to the computer, it has taken a step further from traditional fine arts by removing the drawing aspect. As animators, we are continually defending our position as legitimate artists.

We consider the computer as a tool and that the art is still coming from the artist. It is a different means of expression than many people would accept as traditional art but it is just as valid an art form as any of the fine arts. I believe that animators have proved and continue to prove that an artistic vision and skill set are necessary for our work. There is no better show of my belief in the art form than to commit my senior thesis project entirely in the medium.

Animation has a stigma attached to it because it is almost entirely used for entertainment. I cannot say that it is necessarily as abstract or as profound as many fine arts strive to be, but I do not think that this should disqualify animation as an art form. My generation looks at 3-D animation and thinks about Pixar movies or video games but never really sees the skill and artistic passion that goes into the finished product. The amount of skill, knowledge, and technical ability involved in the animation process should be argument enough for its inclusion as a true art. Animation requires a vast knowledge of art and the acquisition of skills from several different fine arts. It is a combination of drawing, sculpting, painting, and photography.

By working in the medium and making my senior show entirely in it, I hope to support the digital arts and prove its validity as an art form to a generation who dismiss animation. It is important to me and to animators in general to have some semblance of respect for our art form. I will be trying to gain this with my senior project and continue to work in the medium after my thesis is complete. I am working in the digital medium because I enjoy using the computer to make art and I want actively support the medium.

My 3D set extension will show a common visual effect, which is to use After Effects and Photoshop to extend a live action set. In the computer a camera will fly through a digitally painted scene in layers to create a 3D effect. It also showcases matte painting, smoke effects,

light and shadow effects, and particle simulations. My screen replacement project will be removing a computer, TV, and phone screen and creating a replacement in Photoshop and After Effects. My artificial heads up display will composite live action footage with computer images to replace the windshield of a car. My arm tracking project is going to track data points from live action footage of an arm moving and use that data to create 3D camera information. Then I will use Maya to simulate a fire around those data points and composite them together. My shirt replacement project will use tracking data from live action footage to create 3D camera information in Maya. In Maya I will then simulate new clothing and composite the two together.

When I start a project there are several stages in the process. The initial stage is the concept. The second stage is research and development. The third stage is production, shooting or gathering live action footage. The largest and most important stage is post-production, where all the effects are added to the main footage. Then I get critiques from colleagues and fix any errors. That sums up the process for most of my projects.

My work is often superficial in nature. It is meant for entertainment, so the concept does not have a deep and metaphorical meaning attached to it. For all of my pieces I try to come up with an idea for a project that will teach me new techniques and showcase new types of effects. Occasionally I try to duplicate effects I have seen in movies or television but, if I can, I try to come up with original projects. After I come up with a project idea, I have to do research and develop the concept.

To complete an effect, I often first have to research the possibilities and logistics involved in creating the effect. It involves searching CG websites and visual effects websites or looking in visual effects guidebooks. Sometimes it includes finding out if an effect is even

possible to do with the software and equipment I have access to. When I have found the best way to complete an effect, I develop the idea artistically. I find the camera angles I want and the layout that I want. I carefully choose a composition, which is more complicated when dealing with a moving subject and visualizing effects that are not there yet. Finding reference footage to base an effect from is essential. Finding how something would work realistically in real life is the most important for creating a convincing effect. It is not always very easy though because some effects do not exist in the real world therefore I have to think abstractly about how unconventional objects might give me a similar effect to reference. When I think I know how to make the effect right and have good reference footage, I go and get the base footage.

This stage is pretty straightforward. I go out and film the live action footage to put the visual effects on. I use basic lighting techniques and camera moves to shoot usable footage. Some base footage that I need is not possible to shoot so I try and find the footage in other places. The main part of the process comes next.

After I have the base footage the visual effects come next. I take the footage into the computer. I use 3D software Maya or Adobe After Effects to make the visual effects. I use Maya to simulate fluids, and some smoke and dust. I also use it to make 3D models that I can integrate with the live action footage. Most of the basic effects are done in After Effects. Color correction, rotoscoping, and tracking are done in that program. There are a few other programs that I used for very specific tasks. After I think the project is finished, I ask for the opinions of my colleagues.

Fixing my mistakes and oversights is the last step in my process. I get feedback from fellow students and professors about my project and try to change it for the better. I usually go through several iterations of this step.

I worked on my Senior Thesis for a majority of this past semester and a little last spring. The goal of my Thesis was to create a realistic visual effects demo reel. I worked with live action footage and created visual effects on the computer using camera and object tracking, rotoscoping, color correction, chromakeying, digital painting, fluid simulation, and particle simulations.

Bibliography

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